



SISCO 1999 Winter Workshop ***Silviculture Investments: Free Growing and Free Thinking***

Summary Overview
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Introduction

The SISCO Executive's concerns of low attendance and possible cancellation of the annual winter workshop were unfounded when 275 participants registered for this event. The 1998 summer workshop had been canceled due to low registration but this workshop had much higher registration than expected. The 1999 summer workshop is again scheduled for Nelson (August 10-11) and will use the 1998 agenda and field stops. At the business meeting, the treasurer reported that since SISCO is no longer under the umbrella of the Forestry Continuing Studies Network and Selkirk College, the SISCO Executive is seeking society status.

The workshop's agenda consisted of a wide variety of presentations and break-out sessions relating directly or indirectly to silviculture investments. This strategy was planned to attract a wide audience and it was obviously successful. A brief overview of the panel presentations is as follows:

Free Growing Guidelines

Paul Rehler, MOF Forest Practices Branch

New free-growing guidelines will be field tested this year to evaluate the new changes in sampling procedures and competition definitions. With a large total area of second growth stands approaching the free-growing stage, the guidelines have been modified to include the use of a quadrant system for improved effectiveness in evaluating the level of vegetative competition.

The new interim guidelines allow for a higher broadleaf component than the old guidelines allowed. They also acknowledge that woody shrub and herbaceous vegetation will reach a limited height compared with broadleaf vegetation, and therefore, does not need as aggressive a brushing treatment regime. It is hoped that this distinction will ensure that brushing treatments on non-free-growing stands are carried out only when necessary and are worth the financial investment. A comprehensive review of the interim standards after this year's field testing will lead to any necessary changes for implementation.

Operational Considerations of Proposed Free Growing Guidelines

John Wallis, Wallis Environmental Consultants Ltd.

After preliminary work by Ingrid Davis on free growing, which included a literature review, identification of critical issues and recommendations for change, three consultants working independently conducted



preliminary field testing of the draft free-growing guidelines in August 1998. The presentation reviewed the details of the surveying procedures found in the guidelines.

Vegetation complexes were divided into three classes: herbaceous and low shrub, tall woody shrub and broadleaf. As well, determining free-growing includes comparing crop tree height/diameter ratios to threshold values, assessment of competing vegetation by plot quadrants with height within a 1 m or 2 m cylinder around the crop tree, comparing tall woody shrub height with attainable height for the site, and use of a maximum allowable broadleaf density. The field testing of these factors led to the draft guidelines presented but more extensive field testing will be required in 1999. Cost implications around the new surveying methodology were also discussed.

Free Growing and Armillaria

Bart van der Kamp, UBC

The prediction of trees infected with Armillaria root disease is usually unreliable based on visual symptoms. Not only does rate of spread for Armillaria vary by subzone, but the inoculum potential varies within a stand and is difficult to assess according to research undertaken by one of Dr. van der Kamp's graduate students.

Research conducted near Enderby, BC in the moist ICH showed that stumps live for two years after harvest, allowing any low, unexpressed levels of Armillaria to flourish by passing from mature trees to regeneration. The inoculum potential increases significantly after harvest and then quickly drops to pre-harvest levels. Trees can outgrow Armillaria if they are growing well and are not stressed, by mobilizing carbohydrates to the point of attack; large trees are more successful at this than are small trees. After about 15 years of age, stands are fairly resistant to high levels of Armillaria-induced mortality.

It was also observed that stumps created by juvenile spacing these moist sites can be invaded by Armillaria resident on the site, thus again increasing inoculum potential with the result that mortality rates of the young trees again increase. In his concluding summary, Dr van der Kamp indicated that the rate of spread of Armillaria was found to be highest on moist ICH sites compared to wet ICH and ESSF sites. Armillaria spread in the IDF is generally low. Examining Armillaria cannot be confined to single tree analysis; it must be conducted on a stand-level basis to determine whether or not Armillaria could be a barrier to achieving free-growing status.

New Maximum Density Requirements

Ralph Winter, MOF Forest Practices Branch

The history of maximum density since the 1987 regulation was outlined. The most recent changes have stemmed from a committee of MOF and industry representatives that was appointed by the chief forester in 1996. The committee's product, *Guidelines for Developing Stand Density Management Regimes*, will replace the Forest Practices Code Spacing Guidebook.

The new guidelines provide an analytical framework for rationalizing spacing treatments on a biological, economic and forest-level analysis. The Silviculture Practices Regulation was amended in December 1997 to provide a temporary reduction in maximum density obligations while these new guidelines are instructed to practitioners and implemented. The new default maximum density is 10 000 sph for all current and future silviculture prescriptions. The MOF regional manager may specify other numbers using the guideline and the chief forester's *Stand Density Management Policy*. The revised maximum density requirements are expected to significantly reduce spacing obligations in current silviculture prescriptions.



Timber Investment Strategy Committee, Cariboo Forest Region

Guy Newsome, MOF Cariboo region

Of the three Timber Supply Areas (TSA's) in the Cariboo Forest Region, the Williams Lake TSA has an anticipated falldown in long-term wood supply. The Timber Investment Strategy Committee (TISC) for the Williams Lake TSA provided technical recommendations for short- and long-term silviculture investment strategies to model their effectiveness in reducing the falldown effect. A sub-committee reviewed investment priorities, including computer-based strategic analysis to test the TSA's sensitivity to various stand treatments.

The Williams Lake TSA has the most imbalanced age class distribution of the three Cariboo region TSA's, with a shortage in age class 3 and 4 stands. This results in a general insensitivity to treatments reliant on the allowable cut effect, such as old growth site index (OGSI), regenerating backlog NSR, reducing regeneration delay for current reforestation, density management and fertilization. However, use of lodgepole pine problem forest types and commercial thinning show some potential for mitigating the falldown.

Integrating Silviculture into Strategic Planning

Dave White, MOF Invermere district

Through the Enhanced Forest Management Pilot Project (EFMPP) in the Invermere district, the district developed a strategic silviculture plan using models, expertise and information specific to their landbase. "Woodstock," a linear optimization model, was then used to test a variety of silviculture treatments using a number of identified constraints (forest cover, harvest flow) as well as actual field data. The presentation also included information on what a manager could or could not attempt based on two levels of funding – no financial constraints and large budgetary constraints.

Generally, when all of the scenarios were run for the EFMPP, silviculture treatments that were able to increase harvest levels in 25 to 50 years were the most desirable. Fertilization with commercial thinning was shown to help maintain minimum harvest levels when required.



Keeping Focused during Tough Times

Art Lacourciere, Weldwood of Canada Ltd., Williams Lake division

The current state of BC's forest industry, along with tight budgets and high silviculture costs, necessitated a review by Weldwood of its silviculture program and treatments. This presentation covered a long list of ways to "work smarter" and achieve results as cost effectively as possible. Prescriptions, site preparation, nurseries, planting, brushing and administration were examined and refined as required. The overall approach is "doing things right the first time."

Spending more time and care with prescriptions was considered a prime way of reducing silviculture activity costs. Program coordination, improved communications between Weldwood and its contractors and workers, improved nursery stock (including using genetically improved seed), and information systems to streamline paperwork were some general means presented. Getting through the 'tough times' means that the forest industry has to 'get back to basics' to improve all processes for long-term cost reductions and higher success.

Tree Improvement in the BC Interior

Jack Woods and Barry Jaquish, MOF Kalamalka Research Station

Changes and developments in the tree improvement program are providing long-term results in the availability of genetically improved seed. The Forest Genetics Council focuses on breeding and testing, seed and propagule production, gene conservation, and communication and extension. By the year 2007, the goal is genetic improvement of 75% of planted seed over the current 25%.

New Interior seed planning zones, program planning, seed production schedules and early results were presented, demonstrating the progress made through the current duration of the tree improvement program.

Ecological Certification of Wood Products

Bill Bourgeois, VP, Forest Policy, Lignum Ltd.

A brief history of the forest certification issue was presented along with some of the options available to forest companies. It appears that there are three current certification processes now in place, each supported by different groups. Of the three certification processes presented – ISO (International Standards Organization), CSA (Canadian Standards Association) and FSC (Forest Stewardship Council) – FSC is the only process supported by environmental organizations. It was also pointed out that the certification process is very expensive, and anyone embarking on the certification must be aware of why they are pursuing this direction, and recognize that once started it is a long and often uncertain road without any guarantee of success. Lignum is attempting certification by all three bodies using its IFPA (Innovative Forest Practices Agreement) as the landbase of forest management activity.

The Big Picture Policy Framework (Somebody *please* tell me where we're going...)

Larry Pedersen, MOF chief forester

British Columbia is currently in a "global ratsnet" in which all issues are connected and nothing is isolated. We're on the way to sustainable forest management, but what is the shortest and most expedient route? Intense changes affect the big picture framework. BC has the highest biodiversity at any temperate latitude and 43% of our forests are old growth. 50% of BC's manufactured shipments are from wood, paper and allied products. Earlier that week, the PriceWaterhouseCoopers forest industry conference showed a total loss in the forest industry of \$1 billion in 1998, up from \$132 million in 1997.



Structural dimension lumber is being replaced by engineered products and other materials, kraft pulp has high quality competition from the tropics, and certification requirements from European buyers may have good intentions but are fraught with contradictions. Add to this the Asian financial crisis, softwood quotas, Forest Practices Code cost increases, increased stumpage from the softwood agreement and reduction in FRBC budgets ... we feel like a deer caught in headlights.

What BC needs is:

- Show the world we're practising sustainable forest management
- Research and articulate what we want on forest landscapes
- Show confidence in the Forest Practices Code
- Decreased operating costs *with* environmental maintenance
- Show 97% compliance with FPC as audited by the Forest Practices Board
- More forms of tenure, probably with tenure reform
- Sustainable AAC's
- Address transition from old growth to second growth harvesting
- Cooperation, agreement
- Inevitable reduction in number of forest companies through consolidation and takeovers.